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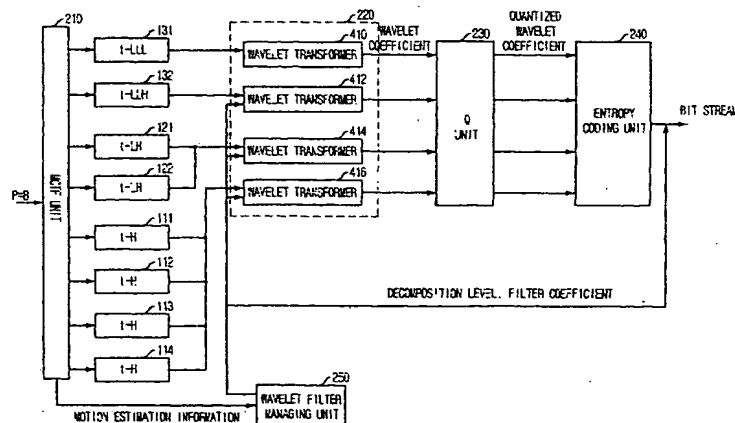(74) Agent: SHINSUNG PATENT FIRM; Haecheon Bldg., 741-40, Yeoksam 1-dong, Kangnam-gu, Seoul 135-924 (KR).

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(54) Title: INTERFRAME WAVELET CODING APPARATUS AND METHOD CAPABLE OF ADJUSTING COMPUTATIONAL COMPLEXITY

(57) Abstract: Provided is an inter-frame wavelet coding apparatus that can reduce the computation complexity of a decoder by adjusting a decomposition level and a filter length based on the information amount of a frame during wavelet transform and a method therefor. The inter-frame wavelet coding apparatus includes: a Motion Compensated Temporal Filtering (MCTF) unit for computing a motion vectors of a group of pictures (GOP) and filtering the GOP with respect to the temporal axis, to thereby obtain filtered frame; a wavelet transforming unit for performing spatial wavelet transform on the filtered frame and outputting a wavelet coefficient; a quantization unit for quantizing the wavelet coefficient; an entropy coding unit for entropy-coding the motion vector computed in the MCTF unit and the quantized wavelet coefficient, to thereby generate an entropy-coded bit stream; and a wavelet filter managing unit for selecting a decomposition level and a filter length for the wavelet transforming unit based on motion estimation information of the GOP video computed in the MCTF unit, wherein the decomposition level and the filter length are included in the entropy-coded bit stream.